

Former Ken Foster Farms Cleanup in Sherwood

This fact sheet provides a summary of site history and environmental concerns, and DEQ's plans for future work at the former Ken Foster Farms site in Sherwood, Oregon.

Background

The former Ken Foster Farms is a 40-acre tract of former pasture land, at 23000 to 23500 SE Murdock Rd. in Sherwood, Washington County, Oregon. Between 1962 and 1971, chromium-containing tannery wastes from the former Frontier Leather Tannery were dumped on the ground at the site. These wastes included animal wastes from the tannery's hide preparation operations, including hide scrapings, tissue, fat, and hair, and liquid sludge from the tannery's wastewater settling tanks. Lime was applied to the waste to control odors. Evidence of waste disposal, such as bone fragments and stained soil, is still visible in some areas.

The primary contaminant in the waste is chromium, most of which is in the low-toxicity trivalent form – generally not a threat to human health. The highly toxic hexavalent form has been detected at the site, generally where high levels of trivalent chromium are found. Hexavalent chromium is not used in tanneries. The oxidation of trivalent chromium over time is thought to be the mechanism for hexavalent chromium occurrence at the site.

Beginning in the early 1980s, the original Ken Foster Farms property was subdivided into 10 tax lots with single-family homes. One of these tax lots (900) was further subdivided into eight lots in 1995, with four zoned for residential use (2200, 2300, 2400, and 2500). DEQ made No Further Action determinations for these residential lots, following environmental cleanup under DEQ oversight completed in 2009. The other four tax lots to the south (2600, 2700, 2800, and 2900) comprise a wetland area of approximately two acres where the highest

levels of chromium have been detected at the site.

Investigation and cleanup to date

DEQ completed a preliminary assessment at the former Ken Foster Farms property in 2005, funded through a grant from the U. S. Environmental Protection Agency. Based on the assessment results, EPA contacted property owners at the site and notified them of EPA's decision to proceed with a sampling investigation. EPA obtained x-ray fluorescence field measurements of total chromium in soil, and also submitted soil, sediment, and groundwater samples to a laboratory for analysis. EPA completed this work in October 2006, and reported its findings in early 2007.

The EPA study showed widespread chromium contamination, with the highest levels found in the wetland and properties to the north. In several areas, total chromium levels exceeded 50,000 parts per million, or 5 percent chromium. For hexavalent chromium, the majority of analytical results were deemed invalid due to quality assurance issues. Results considered reliable suggest the presence of hexavalent chromium in surface soil at levels above risk-based concentrations for direct contact in a residential setting.

In 2009, Ironwood Homes Inc. completed cleanup of tax lots 2200, 2300, 2400, and 2500. The contaminated soil was placed into two engineered cells, capped with clean soil and seeded to establish a grass cover. One cell is on tax lot 2900, which is part of the wetland area, and the other is on the southern part of tax lot 300.

A subsequent wetland sampling investigation at the site showed total chromium levels of up to 98,600 parts per million, or almost 10 percent, with many concentrations exceeding ecological "hotspot" criteria. Hexavalent chromium concentrations in shallow soil/sediment were



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substantially above current risk-based concentration for residential use. However, surface water and shallow groundwater did not show significant chromium impacts.

Limited sampling has been completed by several other property owners, but no other remedial actions have been completed at the former Ken Foster Farms property.

Previous risk assessment

In July 2007, DEQ completed a screening level human health risk assessment using EPA's site data. At that time, DEQ concluded that metals in soil, including chromium, posed no unacceptable human health risk. However, in November 2011, DEQ updated its risk-based concentrations for hexavalent chromium based on new EPA toxicity data. The residential risk-based concentration for hexavalent chromium in soil decreased by two orders of magnitude (i.e., from 32 to 0.29 parts per million). DEQ conducted additional risk screening but found previous testing data to be inconclusive due to quality control issues. As a result, DEQ now considers hexavalent chromium a contaminant of potential concern for human health at the site which needs further evaluation.

Funding for additional work

In an attempt to move the remediation process forward, DEQ drafted a proposed legal settlement between DEQ and several parties for the Frontier Leather and the former Ken Foster Farms sites, issuing a public notice and opportunity to comment in July 2011. Legal challenges have delayed finalization of the settlement and the outcome and schedule for resolution of the legal process are uncertain. Until the settlement funds are available, DEQ will appropriate funds from its Orphan Program Account for completion of a remedial investigation. The investigation report will include a comprehensive risk assessment. In the event unacceptable risk is identified, a feasibility study report will be prepared to identify and evaluate potential remedial options.

Next steps

DEQ, through its contractor, will initiate the planning and coordination for this work in

spring 2013, and intends to complete fieldwork by fall 2013. DEQ will finalize the remedial investigation and feasibility study by the end of 2013. DEQ will coordinate with property owners and other interested parties during planning and field sampling, and will hold a public meeting to discuss the investigation findings. DEQ will seek access agreements from each of the former Ken Foster Farms property owners prior to site work.

For more information

To review additional information for this site, please access DEQ's Environmental Cleanup Site Information database at www.deq.state.or.us/lq/ECSI/ecsiquery.asp.

Enter "2516" in the "Site ID" box and click "Submit" at the bottom of the page. Next, click the link labeled "2516" in the Site ID/Info column.

For additional information, contact Mark Pugh of DEQ's Cleanup and Tanks Section, Portland, at 503-229-5587, or by email at pugh.mark@deq.state.or.us

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